OSWER Innovations Pilot

Creating an Integrated "Green" Parking Lot and Urban Wetlands on a Former Commercial Site

The Office of Solid Waste and Emergency Response (OSWER) initiated a series of innovative pilots to test new ideas and strategies for environmental and public health protection to make OSWER programs more efficient, effective, and user-friendly. A small amount of money is set aside to fund creative proposals. The creative projects test approaches to waste minimization, energy recovery, recycling, land revitalization, and homeland security that may be replicated across various sectors, industries, communities, and regions. We hope these pilots will pave the way for programmatic and policy recommendations by demonstrating the environmental and economic benefits of creative, innovative approaches to the difficult environmental challenges we face today.

BACKGROUND

Heifer International, a non-profit sustainable community development organization devoted to ending world poverty, plans to construct its International Center and Global Village education complex in east Little Rock on a former industrial site located on the south bank of the Arkansas River. When fully developed, the site will include a four-story green office building and education complex, including the Global Village, an outdoor replication of villages from countries in which Heifer works. A quarter of a million visitors are expected each year, where they will have the opportunity to learn about world cultures, issues of hunger and poverty, and the role that a healthy environment plays in solving those problems.

One of Heifer's greatest challenges is to design and integrate a parking lot into a constructed wetlands ecosystem so that it will endure hard use yet have minimal environmental impacts. Typical parking lots are impervious to rain water, forcing the water to run off rapidly into storm drains and sometime into sewer systems during heavy storms. The rapid runoff can contribute to erosion and flood damage. In addition, parking lots can be contaminated with oil, metals, and other pollutants from vehicles, which are swept off the parking lot during rainfall, creating a pulse of contaminated water that enters nearby environments.

PILOT APPROACH

U.S. EPA Region 6, in partnership with the State of Arkansas, Pulaski County, the City of Little Rock, Downtown Partnership of Little Rock, and several consulting corporations, will work with Heifer International to develop an innovative parking lot design that minimizes environmental impacts on a former commercial site. The proposed 4.2 acre parking plaza will accommodate 337 parking spaces, which is the minimum required by the city for the site. A series of small green parking plazas will move storm water through a bioswales system that will collect, cleanse, and recycle storm water into the environment. The system will be incorporated attractively into the landscape. Densely landscaped islands will feature plants chosen for their ability to remove pollutants from water. The lot will have special night lighting and encourage alternative transportation by including solar shades to generate electricity for charging hybrid/electric cares, bike racks, and a trolley stop. EPA grant funds will be used to integrate sustainable environmental strategies into the planning and designing of the parking lot.

INNOVATION

This pilot fosters innovative approaches to environmental challenges by incorporating many new and existing but underused technologies into a common

feature of the American landscape: parking lots. By providing project partners and consultants with an opportunity to work on a formerly contaminated property and build green to an extraordinary degree, the pilot may help to change the culture for residential, commercial, and public development in the area. The parking lot will serve as an environmental educational tool that encourages visitors to consider the consequences of typical parking lots.

BENEFITS

The parking plaza will benefit the natural environment, the city and immediate neighborhoods, and the environmental awareness of visitors. The natural environment will benefit through conversion of a contaminated property into a constructed wetland, recycling of stormwater, prevention of soil erosion and water pollution, use of recycled materials, and planting of native trees and other vegetation. The city and adjacent neighborhoods will benefit through creation of 137 new jobs, increasing tourism, creation of new greenspace near the downtown, and elimination of stormwater runoff from the site. The parking plaza also will encourage environmental stewardship by demonstrating environmentally friendly approaches to construction and designing green development projects.

CONTACTS

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For additional information, visit the EPA OSWER Innovations web site at: www.epa.gov/oswer/IWG.htm.

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